**BANGLADESH UNIVERSITY OF PROFESSIONALS**
**Military Institute of Science and Technology**
**B.Sc. in Environmental, Water Resources, and Coastal Engineering, Term Final (Spring)**
**Examination 2024: Oct 2024 - Nov 2024**

**Student Group: Earned Credit Hours>108**

**Subject: GEEM 445, Engineering Ethics and Professional Practices**

**Time: 3.00 hours** **Full Marks: 120**

**INSTRUCTIONS:**

a. Use **SEPARATE** answer scripts for each section.
b. **Question-1** in **Section-A** and **Question-5** in **Section-B** are compulsory.
c. Answer any other **TWO** out of the remaining **THREE** questions from each section.
d. Figures in the margin indicate full **marks**.
e. Assume reasonable data if necessary.
f. **Symbols** and **abbreviations** used have their usual meanings.

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## SECTION-A

**Question 1** **(Compulsory)**

a. Define ethics. How do you differentiate between ethics and laws? **04**

b. Explain the professional and business communication with examples. Write down the importance of professional/business communication in the profession. **04**

c. Define the project proposal of engineering project. What are the purposes of writing a project proposal? Write down basic reasons why your project proposals get rejected? **05**

d. Explain who are the civil and environmental/water resources engineers? Write down the key issues facing by the civil and environmental/water resources engineers in this present world. **04**

e. Write short notes on BACE. Write down the full form of FIDIC/IFCE, ASPAC and TCDPAP. **03**

**Question 2**

a. Define a meeting. Explain why meetings are necessary in the profession/business? As a junior engineer, you have been given responsibility to organize a meeting; write down the tasks you need to be performed while planning for the meeting. **10**

b. Describe the normative ethical theory, as one of the contemporary ethical theories, with examples. What is engineering ethics? Illustrate as a professional engineers, how you view yourselves and how the public view yourselves? **10**

**Question 3**

a. Define the barriers of professional/business communication. Briefly describe the factors that affect the professional/business communication. Explain the ethical aspects of professional/business communication. **10**

b. Write down your understandings about the ‘Code of Ethics’ for the professionals. Explain why the professionals should support the code of ethics. **$5\frac{1}{2}$**

c. Define the canons of the code of conduct. Write down the guidelines to practice for the following canons: **$4\frac{1}{2}$**

i. Engineers shall perform services only in areas of their competence.

ii. Engineers shall issue public statement only in an objective and thoughtful manner.

**Question 4**

a. Explain the technical proposal of a product. Describe the different types of technical proposals. How long should be a technical proposal and why? **10**

b. Define the financial proposal of a project. Briefly describe the importance of financial proposal of projects. One of the key points of a successful financial proposal of "creating a summary". Explain. **$5\frac{1}{2}$**

c. Write down your understanding of the 'IEB Code of Ethics'. Write down and explain the two important 'IEB Code of Ethics'. **$4\frac{1}{2}$**

## SECTION-B

**Question 5** **(Compulsory)**

a. As an engineer, define the professional engagement. Briefly describe the needs/requirements of the professional engagement in engineering professions. **04**

b. Explain the term 'public procurement'. What do you mean by PPA and PPR. Briefly describe the circumstances where PPR shall be applied. **$4\frac{1}{2}$**

c. Write down your understanding of the term 'tender security', used in tendering process. Describe the requirements of tender security in tendering process. Explain how the amount of tender security is determined with example. **05**

d. Define the 'Standard Tender Documents' (STDs). Briefly describe the information and conditions to be set out clearly by Procuring Entity (PE) in the tender documents. **$3\frac{1}{2}$**

e. Write down the most important factors in the recruitment of employees by the employers. As a job seeker, what should you do before responding to a job advertisement? Explain. **03**

**Question 6**

a. Briefly explain the fundamental criteria of engineering projects. Describe methods of repeated cost estimation of a project in its life cycle. Can 100% cost estimation be possible before the project moves into full scale operations? Why? **10**

b. Write down the meanings of 'Tender Evaluation' in tendering process of public procurement. Briefly describe the procedures followed by TEC (Tender Evaluation Committee) during the examination and evaluation of Tenders. Write down the circumstances when TEC shall not continue to evaluate a tender. **10**

**Question 7**

a. Define open tendering method (OTM) for the public procurement. Differentiate between the Two-stage Tendering Method and the One-stage Two Envelope Tendering Method. **07**

b. Explain the term 'specification' in tender documents. Describe how the technical specification of goods shall be prepared for the tendering process. **06**

c. Differentiate between the tender and the contract in public procurement. Write down the different types of contract in public procurement. What is PPP contract? Explain why PPP contracts are used in public procurement works in Bangladesh. **07**

**Question 8**

a. Define limited tendering method (LTM) for public procurement. Write down the criteria when LTM shall be applicable for procurement of goods/works. Briefly describe the procedures of enlistment of tenderers/suppliers in the LTM of procurement. **06**

b. Write down the differences between goods/works and services in public procurement. Briefly describe the preferred methods of public procurement of intellectual services under PPR. Name the other methods of procurement of intellectual services related to PE's requirements. **10**

c. Define DPP. Describe the different types of projects in DPP in Bangladesh. **4.0**